ALD	Standard	Level 2	Level 3	Level 4	Level 5
Policy		Students at this level demonstrate a **below satisfactory** level of success with the challenging content of the *Florida Standards*.	Students at this level demonstrate a **satisfactory** level of success with the challenging content of the *Florida Standards*.	Students at this level demonstrate an **above satisfactory** level of success with the challenging content of the *Florida Standards*.	Students at this level demonstrate **mastery** of the most challenging content of the *Florida Standards*.
		A student performing at Level 2	A student performing at Level 3	A student performing at Level 4	A student performing at Level 5
Number System					
Range	8.NS1.1 8.NS1.2	identifies square roots of non-square numbers and pi as irrational numbers; identifies rational or irrational numbers and converts familiar rational numbers with one repeating digit to fraction form	places irrational numbers on a number line; identifies irrational decimal expansions as approximations; identifies rational and irrational numbers and converts less familiar rational numbers to fraction form	uses approximations of irrational numbers to estimate the value of an expression; compares and orders rational and irrational numbers without a number line	explains how to get more precise approximations of square roots; analyzes and explains the patterns that exist when writing rational numbers as fractions
Expressions and Equations					
Range	8.EE.1.1	applies the properties of natural number exponents to generate equivalent numerical expressions	applies the properties of integer exponents to generate equivalent numerical expressions	uses multiple properties of integer exponents within an expression with integer exponents	analyzes the reasonableness of the result of using the properties of integer exponents in numerical expressions
Range	8.EE.1.2	evaluates square roots and solves mathematical equations in the form $x^2 = p$, where p is a positive rational number and is a small perfect square; knows that square root 2 is irrational	uses square root and cube root symbols to represent solutions to mathematical equations in the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number; evaluates cube roots of small perfect cubes	writes and solves equations representing real-world situations using square root and cube root symbols	justifies how square roots and cube roots relate to each other and to their radicands
Range	8.EE.1.3	uses numbers expressed in the form of a single digit times an integer power of 10 to express very large numbers	uses numbers expressed in the form of a single digit times an integer power of 10 to express very small numbers	expresses how many times as much a number written in the form of single digit times an integer power of 10 is than another number written in the same form	[intentionally left blank]

ALD	Standard	Level 2	Level 3	Level 4	Level 5
Range	8.EE.1.4	represents very large and very small quantities in scientific notation and uses units of appropriate size for measurements of very large or very small quantities	performs operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used; interprets scientific notation generated by technology	performs operations and interprets values written in scientific notation within a real-world context	analyzes the process and solution to given problems using scientific notation
Range	8.EE.2.5	graphs proportional relationships, interpreting the unit rate as the slope	identifies the unit rate as the slope; compares two different proportional relationships represented in different ways	generates a model of a proportional relationship given specific qualities	[intentionally left blank]
Range	8.EE.2.6	determines the slope of a line given a graph	explains, using similar triangles, why the slope is the same between any two distinct points on a nonvertical line in the coordinate plane; derives the equation $y = mx$ for a line through the origin	derives the equation $y = mx + b$ for a line intercepting the vertical axis at b	compares and contrasts situations in which similar triangles would or would not yield the same slope between any two distinct points on a nonvertical line in the coordinate plane
Range	8.EE.3.7 (ab)	solves linear equations with integer coefficients and variables on one side	solves multistep linear equations in one variable with rational coefficients using the distributive property or collecting like terms on a given side; identifies linear equations as having solutions of one, infinitely many, or none by transforming the given equation into simpler forms by inspection	justifies why an equation has one solution, infinitely many solutions, or no solution	creates examples of equations that have one solution, infinitely many solutions, or no solution

ALD	Standard	Level 2	Level 3	Level 4	Level 5
Range	8.EE.3.8 (abc)	interprets mathematical or real-world problems, given the graph, of a system of two linear equations in two variables	solves mathematical and real-world systems of two linear equations in two variables with integer coefficients by inspection, algebraically by multiplying only one of the equations by an integer	solves and analyzes a system of equations in two variables with integer and benchmark fraction coefficients	solves and analyzes problems involving two linear equations in two variables with rational coefficients or constants
			Functions		
Range	8.F.1.1	identifies, from a graph, if a relation is a function	uses a table or graph to demonstrate understanding that a function is a rule that assigns to each input exactly one output and that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output	explains, given a rule, why it is a function or not a function	creates a rule, given a table or graph, and explains why it is or is not a function
Range	8.F.1.2	compares properties (i.e., slope, y-intercept, values) of two linear functions represented in a different way (graph and equation in slope intercept form)	compares properties (i.e., slope, y-intercept, values) of two linear functions each represented in a different way (algebraically, graphically, numerically in tables, or verbal description)	compares two linear functions and justifies whether two functions each represented in a different way (algebraically, graphically, numerically in tables, or verbal description) are equivalent or not by comparing their properties	creates a function, based on given criterion, in comparison to a given function
Range	8.F.1.3	determines whether a function is linear or nonlinear from graph	interprets the equation y = mx + b as defining a linear function whose graph is a straight line	determines whether a function is linear or nonlinear (table or equation)	gives real-world examples of functions that are linear or nonlinear

ALD	Standard	Level 2	Level 3	Level 4	Level 5
Range	8.F.2.4	determines the rate of change from two (x, y) values or from a graph	interprets the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values; constructs a function to model a linear relationship between two quantities	interprets the rate of change and initial value of a linear function in terms of a verbal description of the linear function	analyzes a set of values in either a table or graph to determine changes to be made to make the relationship linear
Range	8.F.2.5	describes qualitatively the functional relationship between two quantities by analyzing some features of a graph to be linear and nonlinear	describes qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear)	sketches a graph that exhibits given qualitative features of a function	interprets qualitative features of a function in a context
			Geometry		
Range	8.G.1.1 8.G.1.2	describes a rigid transformation between two congruent figures that exhibits the congruence between them	describes a sequence of up to two rigid transformations between two congruent figures	use properties of rigid and non-rigid transformations to understand the relationship between transformations and congruence	[intentionally left blank]
Range	8.G.1.3	describes the effect of a reflection or translation on two-dimensional figures using coordinates	describes the effect of a dilation, translation, rotation, or reflection on two-dimensional figures using coordinates and coordinate notation	describes the effect of up to two rigid transformations on two-dimensional figures using coordinates	describes the effect of two transformations, including at least one dilation, on two-dimensional figures using coordinates and coordinate notation
Range	8.G.1.4	[intentionally left blank]	identifies a sequence of transformations and a dilation that results in similarity	describes a sequence of transformations and a dilation that results in similarity	[intentionally left blank]

ALD	Standard	Level 2	Level 3	Level 4	Level 5
Range	8.G.1.5	uses the fact that the sum of the angles of a triangle equals 180 and identifies angle pairs when parallel lines are cut by a transversal	finds unknown angle measures for angle pairs when parallel lines are cut by a transversal; gives an informal argument for: · sum of the angles of a triangle equals 180 · the measure of an exterior angle of a triangle is equal to the sum of the measures of the non-adjacent angles	gives an informal argument for congruent angle relationships when parallel lines are cut by a transversal	gives an informal argument that a triangle can only have one 90-degree angle; gives an informal argument for the pairs of angles that are supplementary when parallel lines are cut by a transversal
Range	8.G.2.6	uses the Pythagorean theorem and applies to right triangles	models and explains the proof of the Pythagorean theorem and its converse using a pictorial representation	[intentionally left blank]	[intentionally left blank]
Range	8.G.2.7 8.G.2.8	calculates hypotenuse length using the Pythagorean theorem, given a picture of a right triangle or the lengths of the two legs	calculates unknown side lengths using the Pythagorean theorem; applies the Pythagorean theorem to find the distance between two points in a coordinate system with the right triangle drawn	applies the Pythagorean theorem to a real-world situation in two and three dimensions to determine unknown side lengths or the distance between two points in a coordinate system	finds multiple leg lengths given a hypotenuse of an isosceles triangle or finds multiple leg lengths when two triangles with the same hypotenuse are given; applies the Pythagorean theorem in multistep problems; finds the coordinates of a point which is a given distance (nonvertical and nonhorizontal) from another point
Range	8.G.3.9	[intentionally left blank]	uses the formulas for the volume of cones, cylinders, and spheres to solve real-world and mathematical problems	explains the relationship between formulas for the volumes of cones and cylinders	justifies the relationship between the formulas for volume of cones, cylinders, or spheres; explains the derivation of the formulas for cones, cylinders, and spheres

ALD	Standard	Level 2	Level 3	Level 4	Level 5
			Statistics and Probability		
Range	8.SP.1.1	constructs a scatter plot and describes the pattern as positive, negative, or no relationship	constructs and interprets scatter plots for bivariate measurement data to investigate patterns of association between quantities	describes patterns such as outliers and nonlinear association	[intentionally left blank]
Range	8.SP.1.2	identifies a straight line used to describe a linear association on a scatter plot	draws a straight line on a scatter plot that closely fits the data points	judges how well the trend line fits the data by looking at the closeness of the data points	compares more than one trend line for the same scatter plot and justifies the best one
Range	8.SP.1.3	identifies the slope and y-intercept of a linear model on a scatter plot, given an equation	interprets the slope and intercept, given context	uses the equation of a linear model to solve problems in the context of bivariate measurement data	creates and uses a linear model based on a set of bivariate data to solve a problem involving slope and intercept
Range	8.SP.1.4	interprets a two-way table by row or column	completes a two-way table of categorical data	constructs a two-way table to summarize data; describes relative frequencies for possible associations from a two-way table	interprets a two-way table to summarize data; compares relative frequencies to identify patterns of association